

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing chlorine by gas-phase oxidation of hydrogen chloride by means of a gas stream comprising molecular oxygen in the presence of a fixed-bed catalyst, wherein the process is carried out in a reactor $[(1)]$ having heat-exchange plates ~~(2)~~ which ~~that~~ are arranged in the longitudinal direction of the reactor $[(1)]$ and have a spacing between them and through which a heat transfer medium flows, inlet and outlet facilities ~~(3,4)~~ for the heat transfer medium to the heat-exchange plates $[(2)]$ and also gaps $[(5)]$ between heat-exchange plates $[(2)]$ in which the fixed-bed catalyst is present and into which the hydrogen chloride and the gas stream comprising molecular oxygen are passed.

Claim 2 (Currently Amended): A process according to claim 1, wherein the product gas stream taken from the reactor $[(1)]$ is passed to a direct chlorination of ethylene to form 1,2-dichloroethane.

Claim 3 (Currently Amended): A process according to claim 1, wherein ethylene is fed as further starting material into the reactor $[(1)]$, with 1,2-dichloroethane being obtained as desired product in the reactor $[(1)]$.

Claim 4 (Currently Amended): A process according to ~~any of claims 1 to 3~~ claim 1, wherein the heat-exchange plates $[(2)]$ are arranged parallel to one another in the reactor $[(1)]$.

Claim 5 (Currently Amended): A process according to ~~any of claims 1 to 3~~ claim 1, wherein the reactor $[(1)]$ is cylindrical and the heat-exchange plates $[(2)]$ are arranged radially to leave a central space $[(6)]$ and a peripheral channel $[(8)]$ free in the cylindrical reactor $[(1)]$ and the gas stream comprising hydrogen chloride ~~and molecular oxygen is preferably fed radially into the gap (5) between the heat-exchange plates (2).~~

Claim 6 (Currently Amended): A process according to claim 5, wherein the radial extension $[(r)]$ of the heat-exchange plates $[(2)]$ is from 0.1 to 0.95 of the reactor radius ~~(R), preferably from 0.3 to 0.9 of the reactor radius (R).~~

Claim 7 (Currently Amended): A process according to ~~any of claims 1 to 6~~ claim 1, wherein the reactor $[(1)]$ is made up of two or more, ~~in particular detachable~~ reactor sections ~~and each reactor section is preferably equipped with a separate heat transfer medium circuit.~~

Claim 8 (Currently Amended): A process according to ~~any of claims 1 to 4~~ claim 1, wherein the reactor $[(1)]$ is equipped with one or more cuboidal heat-exchange plate modules ~~(9) which that~~ are each made up of two or more rectangular heat-exchange plates ~~(2) which that~~ are arranged parallel to one another so as to leave a gap $[(5)]$ between them.

Claim 9 (Currently Amended): A process according to claim 8, wherein the reactor $[(1)]$ has two or more cuboidal heat-exchange plate modules, $[(9)]$ each having identical dimensions.

Claim 10 (Currently Amended): A process according to claim 9, wherein the reactor $[(1)]$ has 4, 7, 10 or 14 heat-exchange plate modules $[(9)]$.

Claim 11 (Currently Amended): A process according to ~~any of claims 1 to 10~~ claim 1, wherein the heat-exchange plates $[(2)]$ are each made up of two rectangular metal sheets ~~which~~ that are joined on their longitudinal sides and ends by rolled seam welding and the margin of the metal sheets projecting beyond the rolled seam is separated off at the outer edge of the rolled seam or in the rolled seam itself.

Claim 12 (Currently Amended): A process according to ~~any of claims 8 to 11~~ claim 8, wherein the reactor $[(1)]$ is cylindrical and an inert gas is fed into the space between the heat-exchange plate modules $[(9)]$ and the cylindrical wall of the reactor $[(1)]$.

Claim 13 (Currently Amended): A process according to ~~any of claims 1 to 12~~ claim 1, wherein the fixed-bed catalyst in the gaps $[(5)]$ is arranged in zones having a differing catalytic activity, ~~in particular with increasing catalytic activity in the flow direction of the reaction gas mixture.~~

Claim 14 (Currently Amended): A process according to ~~any of claims 1 to 13~~ claim 1, wherein a fixed-bed catalyst made up of particles with an equivalent particle diameter $[(d_p)]$ in the range from 2 to 8 mm is used.

Claim 15 (Currently Amended): A process according to ~~any of claims 1, 2 or 6 to 14~~ claim 1, wherein the ~~width(s)~~ width of the gap $[(5)]$ is in the range from 10 to 50 mm, ~~preferably in the range from 15 to 40 mm, more preferably in the range from 18 to 30 mm, in~~

~~particular 20 mm~~, and the ratio of the width of the gap $[(5)]$ to the equivalent particle diameters (s/d_p) is from 2 to 10, ~~preferably from 3 to 8, particularly preferably from 3 to 5.~~

Claim 16 (Currently Amended): A process according to ~~any of claims 1 to 15~~ claim 1, wherein the superficial velocity of the reaction gas mixture in the gaps $[(5)]$ is up to 3.0 m/s, ~~preferably in the range from 0.5 to 2.5 m/s, particularly preferably about 1.5 m/s.~~

Claim 17 (Currently Amended): A process according to ~~any of claims 1 to 16~~ claim 1, wherein the reaction gas mixture and the heat transfer medium are conveyed in cocurrent through the reactor $[(1)]$.

Claim 18 (Currently Amended): A process according to ~~any of claims 1 to 17~~ claim 1, wherein only a preheated inert flushing gas, in particular nitrogen, is passed through the reactor at temperatures below 150°C during the start-up and shutdown of the reactor $[(1)]$.

Claim 19 (New): A process according to claim 5, wherein molecular oxygen is fed radially into the gap between the heat exchange plates.

Claim 20 (New): A process according to claim 6, wherein the radial extension of the heat-exchange plates is from 0.3 to 0.9 of the reactor radius.